WHAT IS CLAIMED IS:

1. A variable shape mirror comprising:

a frame member having an opening; and

a thin film having a first region including a reflecting plane and a second region of higher rigidity than the first region disposed in the outer periphery of the first region, being supported in the opening of the frame member.

2. A variable shape mirror comprising:

a frame member having a first opening and a second opening;

a first thin film having a reflecting plane, forming an electrode, and supported in the first opening of the frame member;

a second thin film forming an electrode electrically conducting with the electrode of the first thin film, and supported in the second opening of the frame member;

a substrate bonded to the frame member at a specified interval, and having an electrode at a position opposite to the electrode of the second thin film; and

a conductive protrusion disposed on the electrode of the second thin film or the electrode of the substrate, and having a height higher than the specified interval.

3. A variable shape mirror comprising:

a frame member having an opening;

a thin film having a reflecting plane supported in the opening of the frame member; and

a substrate bonded to the frame member at a specified interval by way of a spacer,

wherein the space between the portion of the frame member having the opening and the substrate is not closed.

4. A manufacturing method of variable shape mirror for bonding a frame member of reflecting plane side of variable shape and a substrate at a specified interval, comprising:

applying a photosensitive coating material on either the frame member or the substrate, exposing by using a specified mask, and developing to form a spacer; and

bonding the other one of the frame member or the substrate to the spacer, and heating to adhere together.

5. A variable shape mirror comprising:

a thin film having a reflecting plane;

a member for supporting the thin film;

means which deforms the thin film; and

a sensor formed in part of the thin film for detecting the deformation of the thin film.

6. A variable shape mirror of claim 5, wherein said sensor for detecting the deformation of the thin

film is a distortion sensor formed on the outer circumference of the thin film, and the outer circumference is greater in film thickness as compared with the central part of the thin film.

7. A variable shape mirror comprising:

a frame member having at least a first opening and a second opening;

a first thin film having a reflecting plane supported in the first opening of the frame member;

a second thin film supported in the second opening of the frame member;

means which deforms the first thin film and second thin film by applying an equal fluid pressure to the first thin film and second thin film; and

a sensor formed in part of the second thin film for detecting the deformation of the second thin film.

8. A variable shape mirror of claim 7, wherein said frame member is mainly composed of single crystal silicon, said second thin film has a protrusion projecting from the frame member made of a thin film of single crystal silicon, in the peripheral area of the second opening, and said sensor for detecting the deformation of the second thin film is formed on the protrusion.

9. A small variable shape mirror applying semiconductor technology comprising:

a frame member made of single crystal silicon

having an opening;

a polyimide thin film having a reflecting plane for covering the opening;

means which deforms the thin film by applying a fluid pressure to the thin film; and

a distortion sensor for detecting the change of resistance value of resistance pattern formed on the thin film exposed to the fluid pressure.